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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/159,775	09/24/1998	HIDEO KATO	35.G2254	5553

5514 7590 09/03/2003

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NEW YORK, NY 10112

EXAMINER

BROWN, KHALED

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 09/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/159,775

Applicant(s)

KATO ET AL.

Examiner

Khaled Brown

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 65-76 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 65-76 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 1998 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 26.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This action is being made in response to the amendment filed 2-27-03 p.27, which was crossed in the mail with the previous Detailed Office Action mailed to applicant on 3-28-03 p. 25. That Detailed Office Action responded to the claims presented in the After Final Amendment submitted on 12-10-02 p.22 as instructed to do so by the applicant in the RCE transmittal sheet filed 1-30-03 p. 24 which indicated in box 1a that the examiner is to examine the claims in said After Final Amendment filed 12-10-03 rather than stating that an amendment was forthcoming with the desired claims. The response period for reply is being restated with the mailing of this office action.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1-30-03 has been entered.

Claim Objections

Claims 67,68,72,73,74 and 75 are objected to because of the following informalities: There is a lack of antecedent basis for the limitations "said unit" or "said optical unit" appearing in the claims. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 70-76 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 70-76 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the elements of an exposure apparatus such as a light source, mask, projection optics, wafer, etc... An exposure apparatus consist of more than just an optical element and the invention is not disclosed as being able to work with just an optical element as claimed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 65,67,68,69,70,72,73 and 75 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakata (US 5349604).

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Re clms 65,67,68,69,70,72,73,75: Nakata discloses an illuminator comprising: an illumination system which illuminates a surface to be illuminated with luminous light from a light source (Nakata Fig 1), wherein said illumination system has one optical element (Nakata 2), which has a titanium oxide film formed on only the periphery of its surface (Nakata Col 1 lines 40-46).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 66 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakata (US 5349604) in view of Yamada et al (US 5028697).

Re clm 66: Nakata discloses the claimed invention as noted above. However, Nakata does not specifically state that its laser emits ultraviolet light. Yamada et al discloses that a laser should be an ultraviolet laser because ultraviolet lasers increase resolution (Yamada et al Col 1 line 18). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the laser of Nakata emit ultraviolet light because it would increase resolution as taught by Yamada et al.

Claim 71 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakata (US 5349604) in view of Moriyama et al (US 4358198).

Re clm 71: Nakata discloses the claimed invention as noted above. However Nakata does not disclose a supporting unit having titanium oxide on it. Moriyama et al discloses a supporting unit having titanium oxide on it to improve performance (Moriyama et al Fig 1). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the supporting unit having titanium oxide on it of Moriyama et al into the apparatus of Nakata because it would improve performance.

Claims 74 and 76 rejected under 35 U.S.C. 103(a) as being unpatentable over Nakata (US 5349604) in view of Oomura (US 5668672).

Re clms 74,76: Nakata discloses the claimed invention as noted above including a laser light source (Nakata Fig1). However, Nakata does not specifically disclose a mirror or a scanning exposure apparatus. Oomura discloses a mirror used in the optical system of a scanning exposure apparatus because it allows light to be properly directed onto a mask and wafer (Oomura Fig 2). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the laser of Nakata into the scanning exposure apparatus of Oomura because it would allow light to be properly directed onto a mask and wafer as suggested by Oomura.

Note: a signed copy of the IDS filed 2-28-03 is attached to this office action.

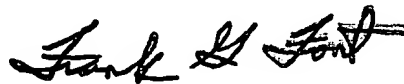
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khaled Brown whose telephone number is 703-306-5738. The examiner can normally be reached on M-F 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 703-308-4881. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

KB
August 11, 2003

A handwritten signature in black ink, appearing to read "Frank G. Font". The signature is stylized with a large, looped "F" and a cursive "Font".

Frank Font
Supervisory Patent Examiner
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